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10/620,458

07/17/2003

Wen-Shiou Lou

0941-0791P

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7590

06/30/2006

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EXAMINER

STOCK JR, GORDON J

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,458

Applicant(s)

LOU ET AL.

Examiner

Gordon J. Stock

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/17/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment received on April 17, 2006 has been entered into the record.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

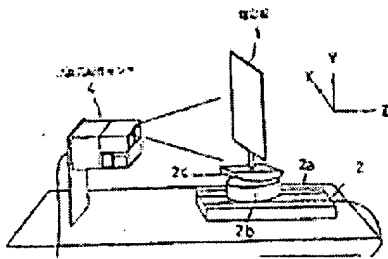
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-8** are rejected under 35 U.S.C. 102(b) as being anticipated by **Hirose et al. (JP 10-047920) –cited by applicant using machine translation** in evidence of **Sano et al. (JP-08-035828)—cited by applicant.**

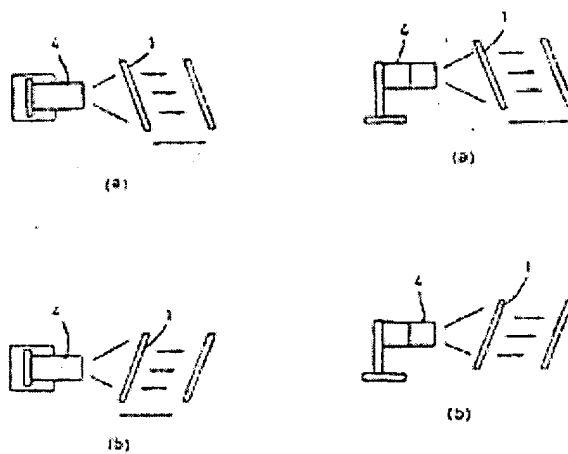
As for **claims 1-2**, Hirose in a calibration method discloses the following: defining a three-dimensional coordinator x-y-z (Drawing 1: 4, 3, 5); providing a calibrating surface (Fig. 4: 1); translating the calibrating surface along the z-axis to establish a first mapping table of a two-dimensional image to the z-coordinate (paragraphs 0033-0036) and rotating the calibrating surface by a predetermined first angle along the y axis then translating along the z-axis to establish a second mapping table of the two-dimensional digital image to the z-coordinate according to the first mapping table (paragraphs 0025-paragraphs 0028); rotating the calibrating surface by a predetermined second angle along the x-axis then translating along the z-axis to establish a third mapping table of the two dimensional digital image to the y-coordinate according to the first mapping table (paragraphs 0011-0015); projecting laser light onto the calibrating surface to form a bright line (paragraphs 0011-0012). As for a light plane, Hirose demonstrates a plane of light in Drawing 1 and suggests a linear beam in Drawing 3 and Drawings 15, 17, and 18. In evidence

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Sano discloses in a 3-d measurement calibration method a linear curtain of laser light for coordinate system calibration (Fig. 2: 2). Also for the light plane being parallel to the xz plane, Hirose demonstrates this with the projection from the laser system orthogonal to the xz plane:



and the projection of the laser light parallel to the xz plane in



drawings 15, 17, and 18:



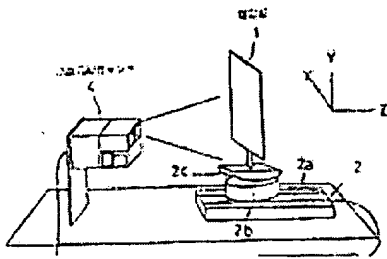
As for **claim 3**, Hirose in a calibration method discloses the following: providing a base plane (base plane supporting 2 and 4 of Drawing 1); a laser sensor (Drawing 1: 4), a flat block having a calibrating surface (Drawing 1: 1 and 2c); a rotating axis perpendicular to the base plane (y axis of Drawing 1); a translating axis perpendicular to the rotating axis (z axis of

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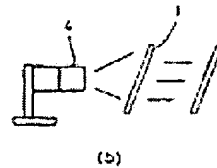
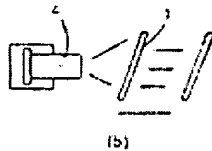
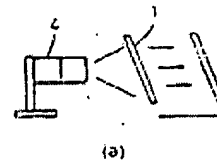
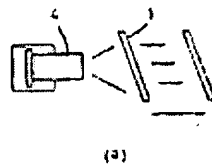
Drawing 1); projecting the laser light onto the calibrating surface (Drawing 1: light projection); adjusting the laser light parallel to the base plane (Drawing 3); adjusting the flat block such that the calibrating surface is perpendicular to the translating axis (suggested by Drawing 1); translating the flat block to a plurality of predetermined first calibrating positions along the translating axis then recording corresponding images made by the laser sensor at each calibrating position and rotating the flat block a predetermined angle along the rotating axis, translating the flat block to a plurality of predetermined second calibrating positions along the translating axis, then recording corresponding images made by the laser at each second calibrating position (Drawings 15, 17, and 18; paragraphs 0011-0012). As for a light plane, Hirose demonstrates a plane of light in Drawing 1 and suggests a linear beam in Drawing 3 as well as Drawings 15, 17, and 18. In evidence Sano discloses in a 3-d measurement calibration method a linear curtain of laser light for coordinate system calibration (Fig. 2: 2).

As for **claim 4**, Hirose in a calibration method discloses the following: a base plane (base plane supporting 2 and 4 of Drawing 1); a laser sensor fixed to the base plane (Drawing 1: 4); a calibrating mechanism fixed to the base plane having a flat block with a calibrating surface thereon (Drawing 1: 1 and 2a-2c); wherein a light plane is projected onto the calibrating surface forming a line such that the laser sensor senses and generates a digital image of the line (Drawings 1 and 3; paragraph 0011). In evidence Sano discloses in a 3-d measurement calibration method a linear curtain of laser for coordinate system calibration (Fig. 2: 2). Also for the light plane being parallel to the xz plane, base plane, Hirose demonstrates this with the projection from the laser system orthogonal to the xz plane:

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and the projection of the laser light parallel to the xz plane in



drawings 15, 17, and 18:



As for **claim 5**, Hirose in evidence of Sano discloses everything as above (see claim 4). In addition, Hirose discloses the calibrating mechanism further has a rotating portion (Drawing 1: 2b and 2c) including a rotating axis perpendicular to the base plane (Drawing 1: y axis); wherein the flat block rotates along the rotating axis by the rotating portion (Drawing 1: 2b and 2c; paragraph 0011).

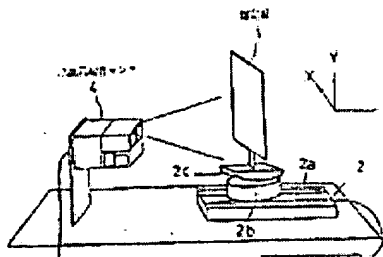
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As for **claims 6-8**, Hirose in evidence of Sano discloses everything as above (see **claim 5**). In addition, Hirose discloses a translating portion, slider (Drawing 1: 2a) including a translating axis perpendicular to the rotating axis (z axis of Drawing 1) wherein the flat block translates along the translating axis by the translating portion (Drawing 1: 2a; paragraph 0011); rotatable platform driven by a motor connected to a reduction mechanism, gonio-slewing gear with rotary table (Drawing: 2b and 2c); translating portion is a linear guide way, direct acting slider (Drawing 2: 2a).

Response to Arguments

4. Applicant's arguments filed April 17, 2006 have been fully considered but they are not persuasive. In regards to the arguments on page 7 of Remarks that Hirose fails to teach 'the laser light plane and the bright line parallel to x-z plane' and that Hirose teaches a grid line surface in regards to claim 1, Examiner disagrees. Hirose demonstrates this with the projection from the

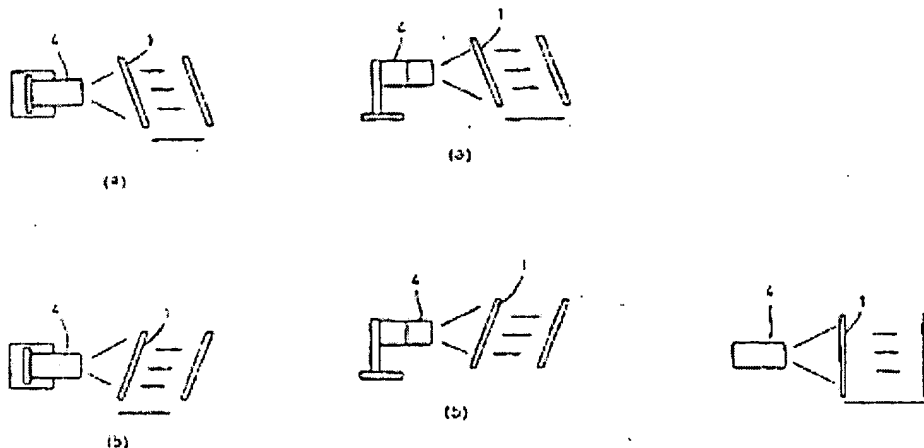
laser system orthogonal to the xz plane:



and the projection

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of the laser light parallel to the xz plane in drawings 15, 17, and 18:



Hirose also discloses using bright lines (paragraphs 0011-0012). And lastly the grid lines are of a prior art system (Hirose: Drawing 19). Hirose's system uses a plain plate (Drawing 1: paragraph 0011).

As for the arguments on page 7 and page 8 in regards to claims 3 and 4, Examiner disagrees that Hirose does not anticipate 'the laser light plane is parallel to the base plane' and the laser sensor is fixed to the base plane generates a light plane parallel to the base plane.' See Examiner's comments above in regards to claim 1 and drawings 1, 15, 17, and 18 of Hirose.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: CN 1354355 A to Jiang et al.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

- 1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and
- 2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (571) 273-8300

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431.

The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

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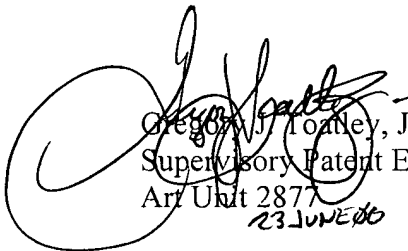
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



gs

June 20, 2006



Gregory J. Toatley, Jr.
Supervisory Patent Examiner
Art Unit 2877
23 JUNE 06